AUTOMATION OF THE BANK OPERATION SYSTEM IN THE HONG KONG OFFICES OF A MULTI-NATIONAL BANK - A CASE APPROACH

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ABSTRACT

Using a case approach, this paper aims at walking through the processes undergone, obstacles seen, and advantages gained when a company changes from a manual or semi-manual operation system to a fully automated one.

The company being studied is an European bank who has a rather manual operation system prior to automation. Our study reveals that the road to automation is a painful one - measured in terms of resources expended by the company and the costs associated thereby, not to mention the hardware costs of the system itself.

The automation project of this European bank can be regarded as successful, as shown by the interview results we have conducted with the Bank's staff and customers. Results achieved include cost savings, improved productivity, reduced turnaround time in transaction processing, increased operation capacity, improved quality of management reports, etc.

One noteworthy lesson we have learned is that many banks neglect one key element when conducting automation projects - people. All they think is that after investing substantial amount of money in systems, they will be able to attain their commercial goals in the long run. This is totally wrong. The quality and morale of the workforce is essential to the success of any bank, even for banks with good operation systems. To fully exploit the added values brought about by an advanced operation system, an equally significant amount of investment must be placed in a bank's human resources.

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CHAPTER 1

INTRODUCTION

This paper aims at studying how a bank in Hong Kong (referred to as the Bank) automates her operation system. A description on the Bank's current system, the plan to automate it and actual changes made, as well as post-implementation results will be covered. As a concluding note to this paper, we shall discuss the difficulties this Bank encounters during the automation process. We shall also try to give some recommendations on the implementation process, based on two opinion surveys we conduct on selected users and bank customers.

It is our intention that through the experience of this project, we can go through the real-life considerations made and actual problems encountered by a company's management team in automating a company's operation system.

CHAPTER II

METHODOLOGY & TERMINOLOGY

A. Methodology

The approach we shall take in this project can be basically divided into two phases: (1) Pre-implementation data gathering and study, and (2) Post-implementation evaluations. Despite that the Bank's automation plan is a global one, this project would focus on how the Bank's automation system is implemented in Hong Kong.

Before the implementation, discussions were held with senior management members of the Bank's Hong Kong office on the objectives of the automation project, and the top management's expectations and commitments. Also, members of the implementation team will also be interviewed to understand the new system's features, the implementation process, the areas of focus, any difficulties encountered, etc.

After implementation, major users like department managers will be interviewed to obtain feedback and opinions on the new system's performance, areas improved, problems created, etc. This will be in form of an opinion survey (see Appendix I) and we shall select 20 internal users of the Bank to interview. The users will be required to comment on the system change. An opinion survey on 20 major customers of the Bank (see Appendix II) will also be conducted to see how they respond to the new system. From the standpoint of an independent consultant, our group will try to analyse all the information collected and to give our recommendations on how the automation should have been done and what remedial actions should be taken by the Bank.

B. Terminology

A glossary of banking terms used in this paper is provided here for readers' reference:

(1) Shielding - "Shielding" refers to the screening of a daily banking transaction against pre-set functional criteria. If these criteria are violated, the transaction is not allowed to proceed. (This term is used only in a limited number of banks.)

(2) Fiating - "Fiating" refers to the granting of the internal approval for a daily banking transaction after checking against available account balance and/or credit limits. (This term is used only in a limited number of banks.)

(3) Banking Facilities (or Credit Facilities) - "Banking Facilities" refers to a properly defined lending package granted by a bank to a borrowing customer, which consists of a set of approved banking products, the limits for each product and the applicable terms and conditions.

(4) Collaterals - Collateral is an asset, the title of which has been officially and legally charged to a bank, which is provided by a bank customer to a bank to secure banking facilities from it.

(5) Position (or Risk Position) of a Customer -

"Position of a customer" is the summary of the total outstanding items (including borrowings, deposits, contingent liabilities and collaterals) the customer maintains with a bank at any given time.

(6) Excess - "Excess" is referred to as the amount of borrowing that a bank customer incurs in excess of the credit limit(s) pre-approved by the bank.

(7) Incoming Payment Order -

"Incoming Payment Order" is a remittance, in the form of a payment order, received from overseas by the beneficiary's banker for credit to the beneficiary's account.

CHAPTER III

BACKGROUND INFORMATION

A. Company Statistics

The Bank we are studying is a foreign-based international bank. She is ranked amongst the world's top twenty biggest banks and has total global assets of over U.S. dollars 220 billion. In addition to having domestic branches at her home country, the Bank has a huge international network which spans 51 countries with over 450 offices worldwide.

The Bank's office in Hong Kong was first established in 1906. As of today, her total number of employees in Hong Kong is approximately 500. Other than the Main Office in Central, the Bank has 7 operating sub-branches in Hong Kong. Hong Kong belongs to the Bank's Northeast Asian region, the regional office of which is also located here.

Hong Kong represents an important profit center of the Bank in the Northeast Asian region. Revenue in Hong Kong are mainly generated from trade finance, corporate banking and corporate finance all of which require strong operational support. There are also limited retail banking activities being carried out here and new direction of the Bank is to penetrate into private banking and merchant banking.

B. Situation Before the Automation Project

Despite her long history and established standing as a world-class bank, traditionally the Bank has not placed much emphasis on her operation system, especially the systems being used in the foreign branches of her international network including Hong Kong.

When many other international banks have been continuously undergoing system changes and improvements in response to market needs since the last decade, the Bank stuck to its outdated system which requires excessive paperwork and duplicating manual jobs, and does not provide a good Management Information System (which is particularly important to a bank in the area of credit control, product development, and business planning).

In Hong Kong, she was one of the few licensed banks that did not operate an on-line system for teller services. Working under an off-line system, a lot of manual work were inevitably required and personnel costs in Hong Kong soared.

C. Major Trends in Banking in the 90's

The top management of the Bank identifies several major trends in the banking industry in the 90's which has prompted them to decide on an automation plan as a top priority project.

More Critical Attitude of Clients

Bank clients are in general more service demanding and cost conscious. Individual customers nowadays are more educated and have better knowledge on financial markets. Corporate customers are getting more sophisticated and organised, and are often managed by a team of professionals each specialised in one particular field. Naturally customers' requirements on the speed and quality of services have become much higher.

Intensifying Competition Among Banks and With Financial Institutions

The keen competition among banks has for long been an area of concern to management teams of banks since the early 80's. Going into the 90's, the competition has been intensified further and does not confine to banks but has been extended to non-bank financial institutions.

Increase in New Products and Services

In the late 80's, banks were competing through pricing and the aggressiveness in lending policy. In the 90's, these strategies may not be able to effectively beat the competition, partly due to adverse effects of cut-throat price wars and partly due to the higher requirements now imposed on the liquidity and return on asset ratios for banks. Product innovation and flexibility in services become the major areas of focus to attract customers. Highly customer-oriented products and services are created (e.g. telephone banking, home banking, etc.) which often call for considerable investment in computer hardwares and softwares.

Increasing De-regulation

See through the 80's and into the 90's, the environment in which banks operated has been continuously undergoing changes towards a higher degree of de-regulation. Banks are now more freehand to make their business decisions, to tackle their own commercial problems and to formulate their long term plans. Regulations from government and banker associations tend to play a less significant role.

Growing Emphasis in Global Banking

Since the beginning of the 90's, global banking has received increasing emphasis from major international banks. While corporate clients are continuously extending their business to more than one country, private customers are also increasingly involved in investments abroad. To more effectively serve the banking needs of these multi-national customers, the concept of providing global banking services is expected to remain one of the major trends in banking.

CHAPTER IV

THE NEW SYSTEM

A. Characteristics of the New System (SYSCO)

The new system, which we shall use the abbreviation "SYSCO" to stand for in the remaining text of this report, is primarily designed to fulfil the commercial needs in the international network of the Bank. It is characterised by the following features:

More Information Supplied to Both Customers and the Bank's Management

SYSCO provides more account information to customers which can help them make better commercial decisions. It also stores a lot more applicable management information which can be easily and speedily accessed by the top management of the Bank when required.

Fast and Efficient Handling of Transactions

SYSCO is an on-line system which works in fast response time and provides instant update of all transaction entries, whether they be front office transactions over

teller counters or back office internal account bookings. All entries are entered through terminals using different templates which are specially designed, well categorised, and extremely user-friendly. Duplicated efforts of manual checking are eliminated. Postings are instantly effected after authorisation by managers through their terminals. Vouchers for debit and credit are no longer required. A lot of paperwork is saved. The entire system of processing transactions of the Bank can be performed in a highly efficient manner. The direction is going towards a paperless office.

Real-time Bank-related Position Management

The new system allows real-time update of a number of key positions critical for ensuring smooth daily operation and proper control of the Bank. These positions include:

(a) Account Balances

- Real time update of client's total outstandings with breakdown of account balances.

(b) Currencies

- Treasury position of different currencies being accurate to the very current moment.

(c) Cumulative Transaction Amount

- Particularly useful to tellers in their reconciliating the positions of cash and clearing cheques deposited by customers at day end.
- The cumulative totals with data breakdown can be easily retrieved from their terminals any time during a day.
- Reconciliation work is made much simpler at day end, and it is easier to locate errors if there are reconciliation problems.

Better Operation/Internal Control

The system provides the positions of staff input and authorisation which are useful for internal control. An operation officer is able to see on screen the input staff ID of a transaction and the input time before he/she authorises the transaction on screen. The manager can also retrieve data like:

- Who inputs a transaction?
- When is a transaction inputted?
- Where has the transaction been routed in the system network for authorisation?
- Who authorises the transaction?
- Why is a transaction rejected?

Accurate Profitability Analysis

For each income generating transaction, the system can identify the source from its account references and transaction codes. The posting of profits and costs for each profit center (department and branch) can be performed easily. A detailed breakdown in the profitability analysis is given. Further, an analysis of income per (a) customer, (b) per account officer (each controlling a portfolio of accounts), (c) per branch or department, and also (d) per functional product, are possible. This makes the planning and control of marketing results much more effective.

Improved Credit Control

(a) Credit Limit Control

- The system has the feature of automatic withdrawal of credit limits if the credit facilities extended to a customer has expired for a pre-set period of time (say, 3 or 6 months). Only if a proposal to continue the credit facilities is submitted by the account manager concerned and is approved by the bank management would the credit limits be restored.

(b) Collateral Control

- For lending cases in which the Bank holds a certain type of collaterals (say, property, shares, or deposit), the system provides constant updating of the collateral value (periodic updating for mortgaged property), and in the case that the collateral value falls below the Bank's requirement, the credit limits would be reduced accordingly so that the Bank's exposure would be safeguarded. A warning message and an exception report will be generated.

(c) Excess Control

- A borrowing customer's usage of banking facilities in excess of the approved credit limits, even with proper approvals, are summarised in an exception report. The frequency of generating this report can be adjusted according to the user's requirements.

Flexible Fee Structure

The structure of fees, including commission, interest, handling fee, penalty fee, etc. that the Bank charges to customers can be set with high flexibility under the new system. Previously, complicated fee structure (e.g. multi-tier structure of commission) is not advisable due to the excessive manual calculations involved. The Bank often denies officers' requests to offer non-standard fee structure to customers due to this reason and this may be a possible cause for losing business to competitors. With SYSCO, basically the fee structure can be set in any way as desired. For instance, even interest charge based on day-end interbank overnight lending rate is now feasible with SYSCO.

Better Handling and Control of New Products

With the use of the flexible set-up of SYSCO, its various templates, the position control tools and the flexible fee matrix, it is possible to handle and control the launching of new products in a very short time. This clears away many obstacles previously exist in new product innovation of the Bank.

Electronic Banking

The new system can be linked with "satellites" or sub-systems to provide electronic banking services to clients. This gives the Bank a competitive edge to enhance its relationships with service-demanding clients especially the multi-national corporations.

Summary

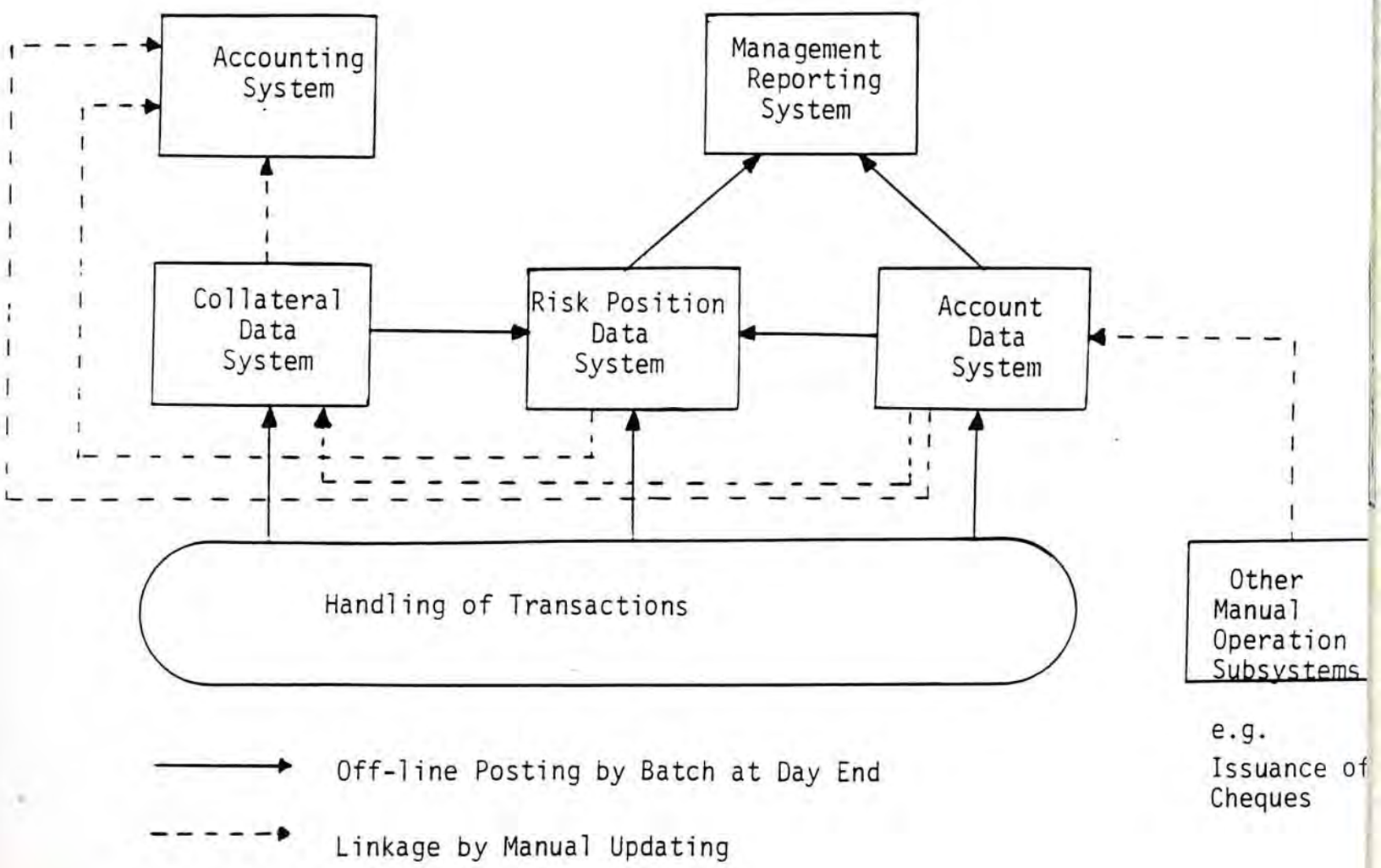
In short, SYSCO is intended to help the Bank to become one of market leaders in providing quality and flexible services to its customers.

B. Functional Overview

The Previous System

Before we go to discuss the functional aspects of SYSCO, we first outline the basic structure of the previous system in use prior to the implementation of SYSCO in Figure 1.

Figure 1 - The Previous System



Description of the Previous System

Prior to SYSCO being installed, the Bank's operation is primarily dependent on the following 4 major systems:

(a) Account Data System

- Keeps information on any and all daily transactions occurring in the Bank's savings, current, and other accounts.
- Information in this system is loaded to the Risk Position Data System and Management Reporting System via batch processing at the end of each day.

(b) Collateral Data System

- Keeps updated information on the kind and market value of customers' collaterals deposited with the Bank.
- For cases in which the collateral is a cash deposit placed with the Bank, the collateral information is off-line updated by Account Data System.

(c) Risk Position Data System

- Contains information required to perform credit risk control.
- It gets data from the Collateral Data System plus data from the Account Data System to come up with the risk position of each borrowing customer.

- Both the information this system receives and sends out are processed via batch jobs done at the end of each day.

(d) Management Reporting System

- Captures data from Account Data System and Risk Position Data System to generate reports for management for control planning purposes.

Comments on the Previous System

Major deficiencies of the previous system can be summarised as follows:

(a) Possible Errors in Customers' Risk Position due to Off-line Postings by Batch Jobs at End of Day

- A reduction in the collateral value of a customer today can only be reflected in the Risk Position Data System tomorrow. A decision made today based on customer's risk position extracted from the Risk Position Data System may not have considered the possible reduction in collateral value. The control of this loophole relies merely on manually prepared memos and telephone communications between departments. In the case that there are overlooking, misunderstanding or delay, the Bank could be exposed to unnecessary risks and the result could be very serious.

(b) Manual Accounting System

- Based on reports generated from the Account Data System, the Collateral Data System, and the Risk Position Data System, all accounting entries of the Bank are done via manually prepared journal entries.

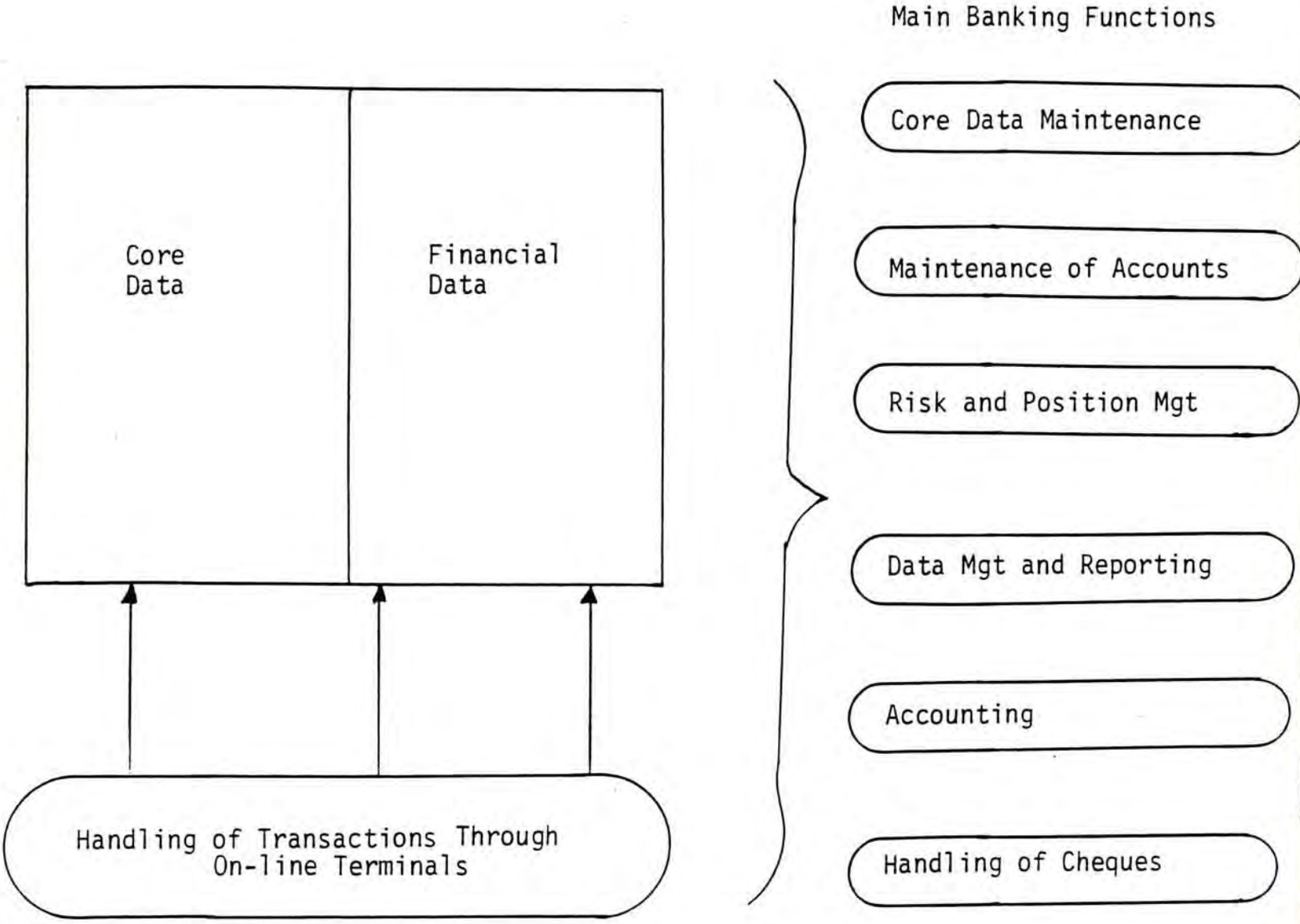
(c) Existence of Manual Operation Subsystems

- The issuance of cheque books, for instance, is a manually tracked process. A log book keeping track of cheque numbers issued is maintained.

Architecture of the New System

The architecture of SYSCO is outlined in Figure 2. Instead of having separate systems for different functions, SYSCO provides one central data base for all kinds of transactions. One transaction update performed in SYSCO will brings about effects on all affected bank functions real-time on-line. An inventory on the banking functions built into or centralised within SYSCO are listed in the next sub-section.

Figure 2 - Architecture of SYSCO



Brief Outlines of Banking Functions Performed by SYSCO

(a) Core Data Maintenance

Maintenance of four categories of data:

- general (branch code, account code, etc.)
- shielding limit set by customer (e.g. a particular current account is not permitted to be withdrawn for more than HKD50,000 per cheque)
- account balances
- fees (e.g. interest rate)

(b) Maintenance of Accounts

- Chart of accounts (for group of companies)
- Types of accounts
- Opening and closing
- Account information changing
- Account status monitoring (e.g. account freezing)

(c) Risk and Position Management

- Maintenance of facilities
- Maintenance of collaterals
- Maintenance of risk positions per customer, per group or per sub-branch, etc.

(d) Data Management and Reporting

- Data manipulation
- Message generation (e.g. computer printed reminder to control due date of guarantee)
- Report generation

(e) Accounting

- Maintenance of open items
- Interval processes
- Budget and profitability (per customer, per group, per sub-branch and department, etc.)
- Revaluation
- Consolidation
- Reconciliation
- Balance reporting

(f) Handling of Cheques

- Clearing periods
- Issuance of cheque books
- Types of cheques (including customer's cheques, cashier's orders, demand drafts, etc.)

Functional Illustrations

To better illustrate how SYSCO is operationally different from the previous system, we have selected the following two scenarios and compare their processes under the old environment and under the SYSCO environment.

(a) Handling of an Incoming Payment Order by Mail

- Figure 3 depicts the previous situation whereas Figure 4 depicts the SYSCO situation.
- Manual typing of advices and vouchers, the time to look around authoriser to do fiating, and the time used by the authoriser in checking the manually prepared vouchers are all saved in the SYSCO environment. Also, accounting entries are posted by SYSCO automatically. The whole transaction is completed in a fast and accurate manner.

Figure 3 - Handling of an Incoming Payment Order by Mail, Previous Situation

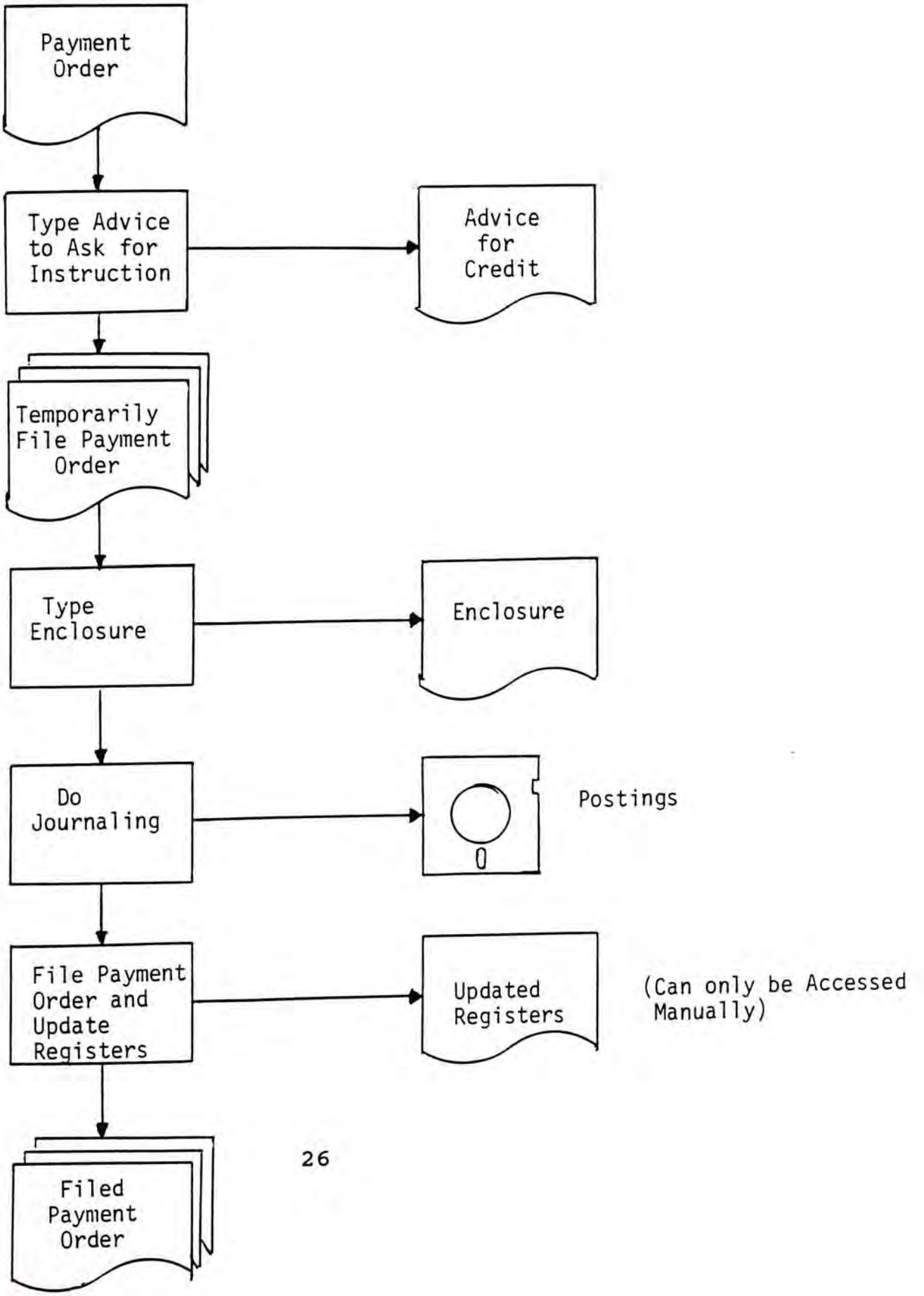
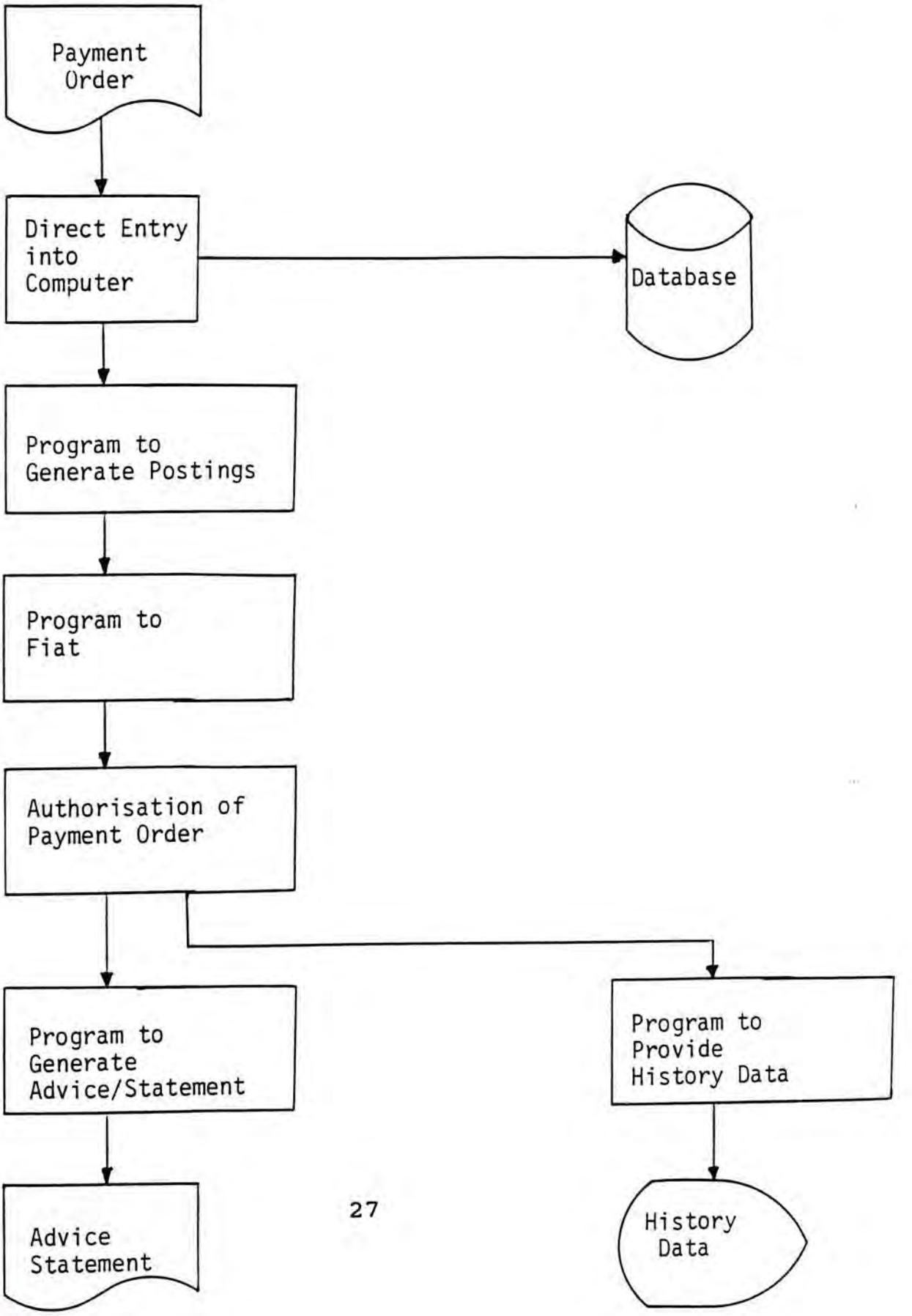


Figure 4 - Handling of an Incoming Payment Order by Mail, SYSCO Situation



(b) Handling of a Cash Withdrawal

- Figure 5 depicts the previous situation whereas Figure 6 depicts the SYSCO situation.
- Again the fiating process and accounting journal postings are automatically done by SYSCO. The fiat report used in the previous situation is no longer required. Under normal circumstances, the time required in completing a cash withdrawal using SYSCO is less than one-third of that required previously.

Fiating Feature

Perhaps the best way to illustrate the operational characteristics of SYSCO is to talk about its unique feature, **system-routed** fiating, which is outlined in Figure 7.

Essentially, a transaction entered through terminal by a functional unit has to go through two screening processes in SYSCO, namely shielding and fiating, before it is actually posted to update the concerned balances and positions.

Figure 5 - Handling of a Cash Withdrawal, Previous Situation

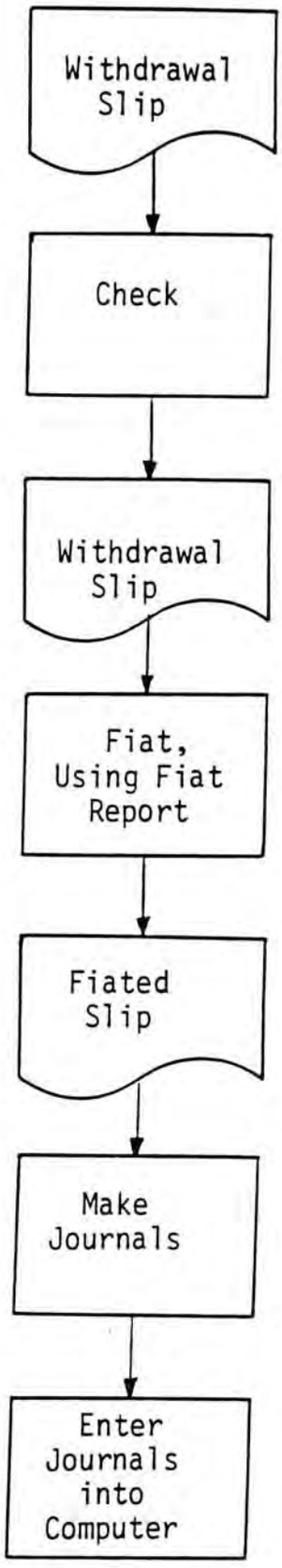


Figure 6 - Handling of a Cash Withdrawal, SYSCO Situation

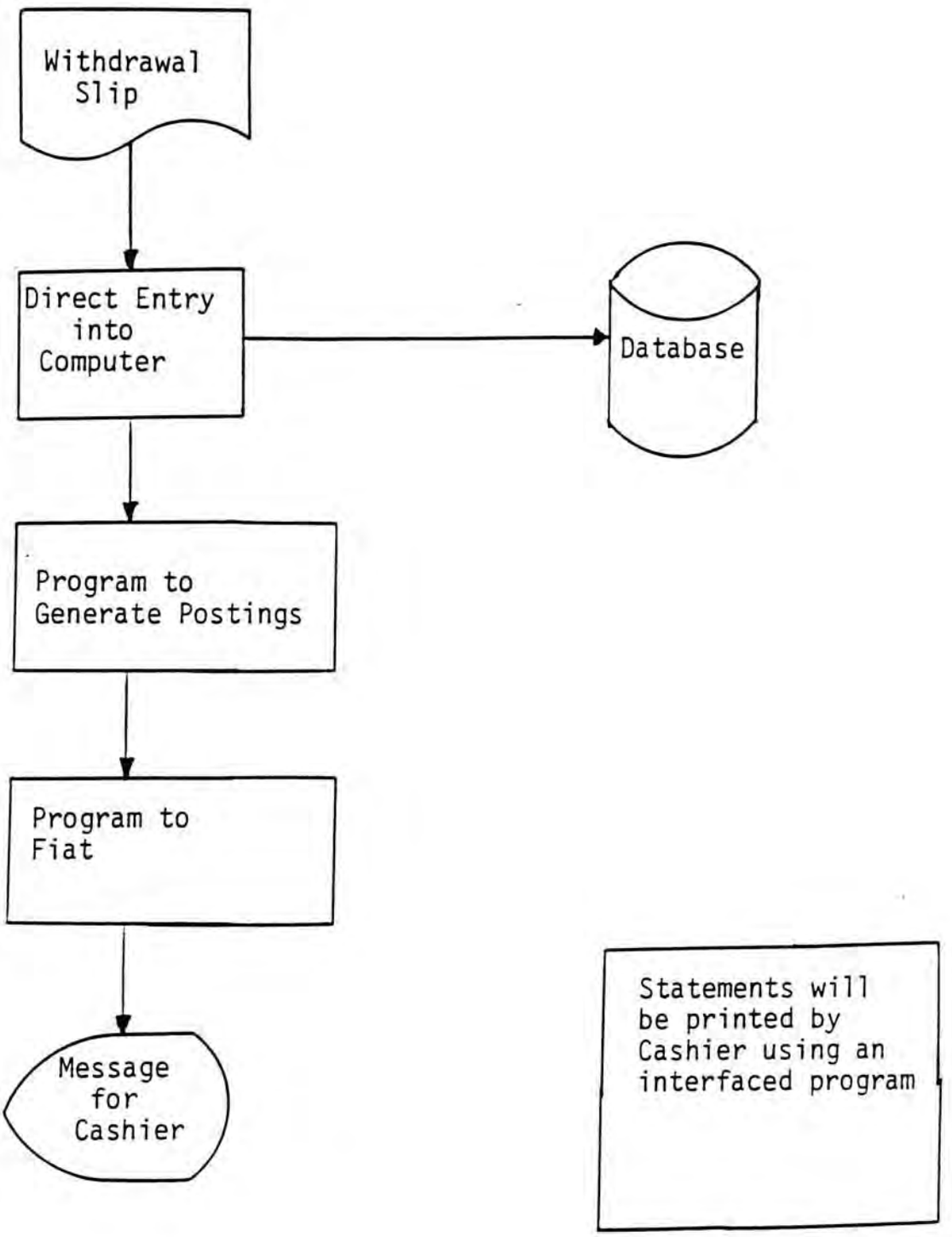
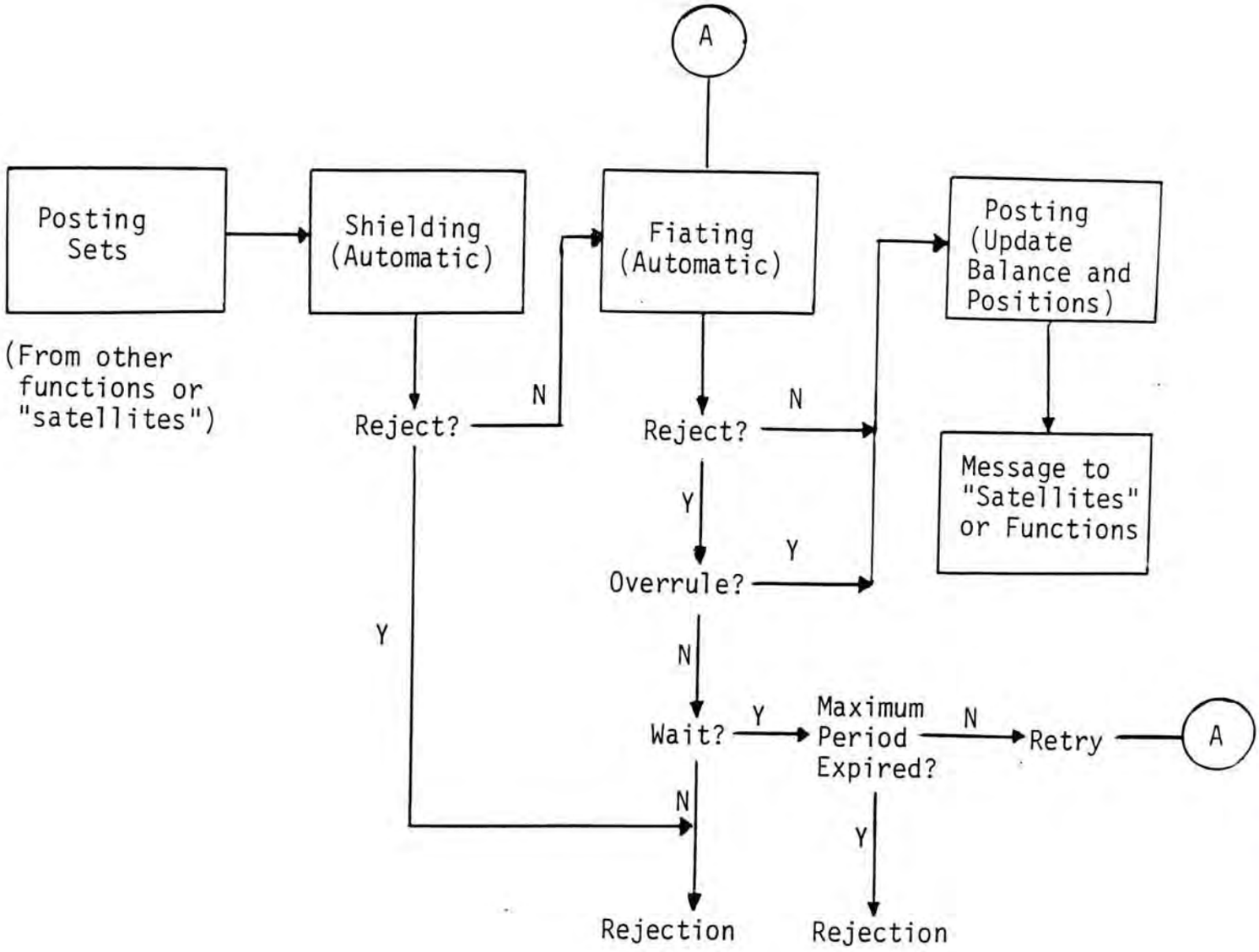


Figure 7 - Fiating Program Procedures



(a) Automatic Shielding

- SYSCO checks every transaction against shielding criteria, which are set based on a variety of logic.

  (i) By the customer on the account:

  Examples,

  1/ Restrict the maximum amount per transaction for a particular account to a certain limit beyond which the system would automatically rejects.

  2/ Restrict the product types that can be performed with an account. For instance, no cash withdrawal is allowed for a particular coompany account and withdrawals have to be made by transfers.

  (ii) By the Bank on the operation staff:

  1/ A staff shielding limit is pre-set for each staff member showing the maximum amount of transactions he/she can handle.

  2/ Each staff member is allowed to handle a pre-determined group of product types according to his/her function. The system would reject transactions of product types outside the given range.

(iii) By the Bank on information access:

For the purposes of confidentiality and proper control, certain information are restricted to a specified group of users.

Examples,

1/ Managers of a sub-branch cannot make access to the position and data of accounts maintained in other sub-branches.

2/ Supportive staff functions like Personnel, General Affairs, etc. are not supposed to have access to marketing information like the customer portfolios of the Bank, customer portfolios per department, profitability figures per account and per department, etc.

3/ Employee account data and payroll information should be restricted to Personnel Department only.

- In short, only transactions within the shielding criteria are allowed to be passed on for fiating.

(b) System Routed Fiating

- After shielding, SYSCO checks the transaction concerned against the following:
  - (i) Whether sufficient balance or available room of credit line exists in the account to be debited.
  - (ii) Special account status marking (includes earmarking of account balance to be reserved for other usage, account freezing, stop payment instruction received, etc.).
- If accepted, the transaction is said to have been fiated and posting follows. If not accepted, the system will not cancel the transaction right away. Instead, it responds to the inputter that the proceeding of the transaction requires overrule.
- With the confirmation of the inputter to seek overrule, the system would identify the inputter and the product type of the transaction, locate the right fiater and route the transaction to the fiater's terminal which would immediately alert the fiater by giving a short but sharp "beep" sound. The fiater can then do either of the followings.
  - (i) Overrule and confirm to proceed the transaction.

(ii) Re-confirm to reject the transaction.

(iii) Keep the case pending in the system (while the fiater goes to obtain further information before making decision. A maximum pending period for these transactions is pre-set, after which the transaction will be cancelled and has to be re-entered if required.

- If an overrule request is transmitted, but the fiater is not attending his/her terminal, the system will remind the fiater by giving the sharp "beep" sound at regular intervals. (The frequency of such reminder is pre-set but can be adjusted.) If the request remains unattended after fixed period of time (currently fixed at five minutes), the overrule request will be routed to the second fiater and then the third and so on.
- A routing of fiaters is pre-determined for each inputter and for each product type. This system routed fiating process eliminates a lot of paper work and under normal circumstances should substantially shorten the processing time of customers' transactions.

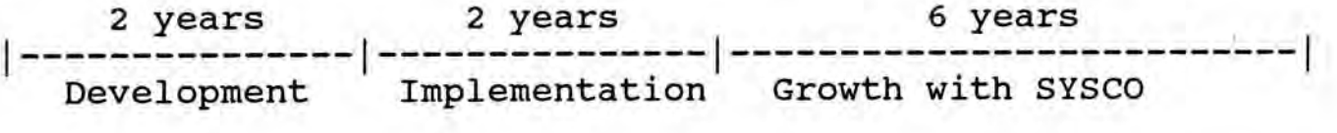
CHAPTER V

THE IMPLEMENTATION TEAM, PLAN AND PROCESS

A. Life Time for SYSCO

The SYSCO project is planned to be implemented in 42 countries within the Bank's international network. The new system would be installed in over 300 branches or sub-branches worldwide within an implementation period of 2 years, in which a total number of over 8,000 staff members would be involved.

SYSCO is planned to have a minimum life time of 10 years, as shown in the following time line:



The Bank's management conservatively projects a 6-year growth period for the new system. The common belief is that the growth period could be extended to 8 years or more.

B. Implementation Plan

To accomplish the implementation in 42 countries within 2 years, SYSCO will be implemented in 3 phases.

Phase One

Four countries are selected as pioneer branches. Automation will be carried out in each country one after another. Although each country has her own unique characteristics in current operation set-up, every one of them will go through the following five stages:

(a) Analysis of User Requirements

(b) System Customisation and Modification

(c) User Training

(d) Simulation Runs

(e) Actual Implementation

Phase Two

Ten countries will be selected and parallel implementations will be done. Experience gained in Phase One will be capitalised on.

Phase Three

Global implementation will take place.

C. Why Hong Kong is Chosen as the Second Pioneer Site?

For Phase One, the first pioneer site chosen is Greece. Hong Kong is selected by top management to become the second pioneer site following Greece. The reasons why Hong Kong is chosen are:

(1) Hong Kong is located near to (actually in the same place as) the Northeast Asian regional headquarters. There is easier access to head office support.

(2) The first pioneer site Greece has only one single office. Hong Kong has several sub-branches which resemble the operation set-up in many important profit centers of the Bank located worldwide.

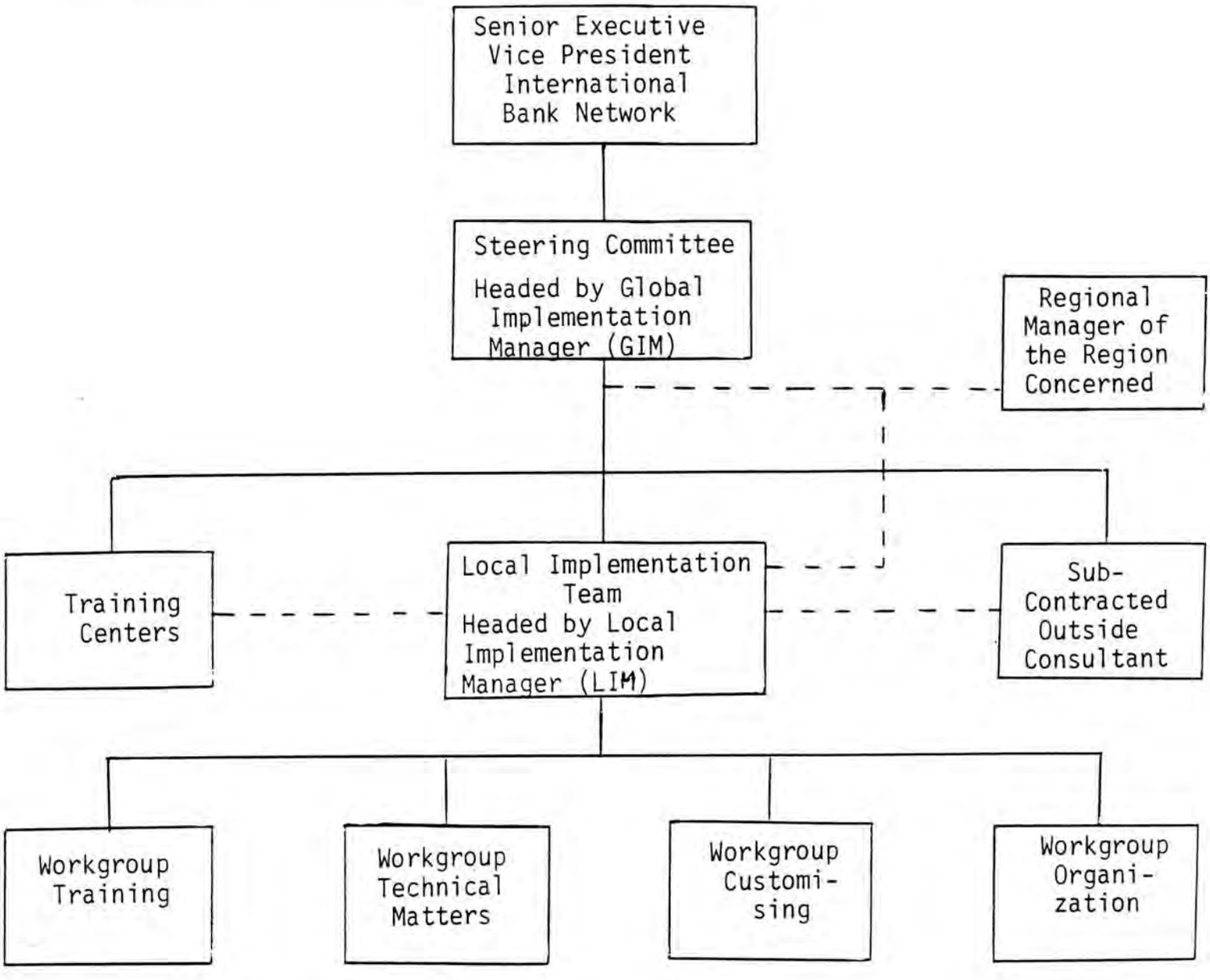
(3) Hong Kong has demanding customer requirements and is facing keen competition. The sufficiency of many system features can be tested here.

(4) Hong Kong herself actually needs to have an advance system as early as possible in order to survive the competition.

D. The Project Organisation

The project organisation of the implementation of SYSCO basically take the form of the following chart:

Figure 8 - The Project Organisation



The Project Organisation Structure

The project organisation is overseen by the Senior Executive Vice President, International Branch Network.

A Steering Committee SYSCO is formed and is headed by an internally appointed Global Implementation Manager (GIM) who reports directly to the Senior Executive Vice President. The committee members are consisted of senior staff (Senior Vice President or above) from Head Office and the region level of EDP MIS, Planning and Operations background.

The Steering Committee is to remain in function all through the development and global implementations stages of SYSCO.

The Steering Committee works in coordination with the Regional Manager of the region involved. The Regional Manager sits in the Committee's meetings.

Three parties work under the Steering Committee: Local Implementation Team, User Training Center and the sub-contracted outside consultant.

A new Local Implementation Team is set up for implementation at each site. The Team is headed by a Local Implementation Manager, carefully selected at the country level. The team is essentially a temporary task force

consisting of senior staff members from various functional streams seconded to the Team on a full time basis. The Team works until the local implementation is completed (normally for several months) and will dissolve afterwards.

The Training Center is a separate unit specialising to provide user training at various stages. The outside consultant provides technical expertise on the development, customisation and system modification stages. The three parties work in close co-operation.

To ensure the implementation project is efficiently carried out, several work groups are formed each specialising in one particular area. The work groups are hands-on people responsible for carrying out the detailed plans and procedures set by higher levels in the project organisation. They interact directly and frequently with users.

Key Considerations in the Project Management Set-up

(a) Work groups at low levels should be composed of staff members coming from user departments.

(b) Effective communications between levels and within same level should be maintained all through the projects.

(c) Strictly top down decision should be avoided as far as possible.

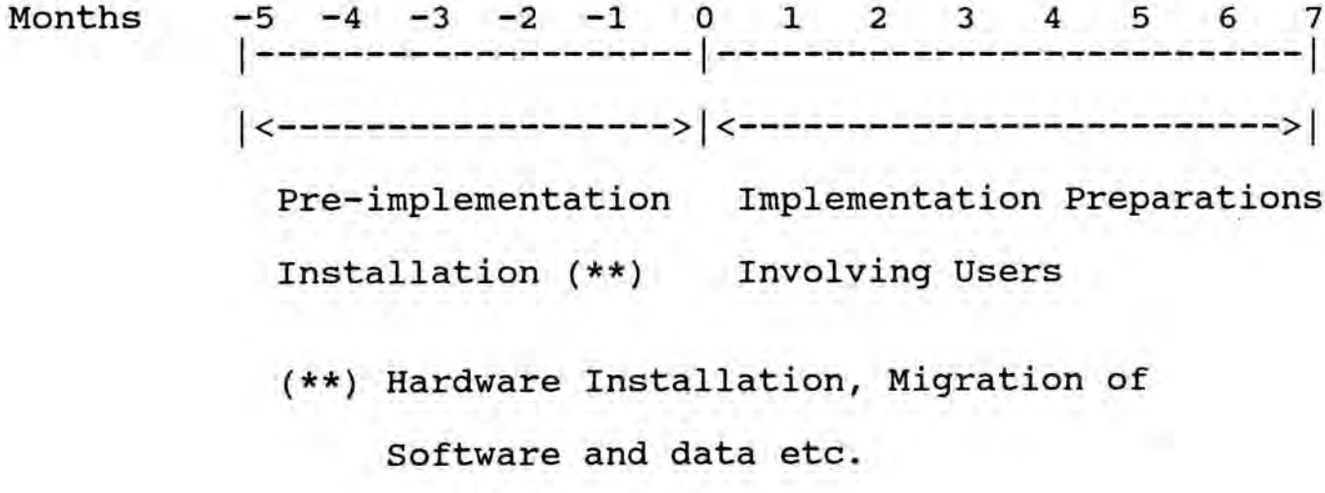
(d) The number of levels in the project organisation should be reduced as far as possible to assure rapid flows of information and feedback.

(e) The GIM should be assigned a certain amount of authority in making operational decision so that fast responses can be made to problems.

(f) Training should be conducted through separate Training Centers in parallel with other activities (e.g. customisation) to achieve efficiency and effectiveness.

E. Implementation Schedule

To prepare for SYSCO actually going life, a 12-month implementation schedule is decided as shown below.



(**) Hardware Installation, Migration of Software and data etc.

The 30-week time table for the implementation preparations for SYSCO is set as shown below:

Task Number	Tasks	Week
1	Formation of Local Implementation Team / Preliminary Preparation Work	1- 2
2	Set up Training Centers	3- 4
3	Implementation Training (Workshops for Local Implementation Team Members)	5- 9
4	Introduce SYSCO Concept to Branch	10
5	Start Implementation Preparation Involving Users	11
6	User Training (Computer Based Training) for all Operational Staff	12-16
7	Modify Organisation in Preparation for SYSCO	14-18
8	Complete Customisation of the System to Local Environment	18-22
9	Complete Conversion Preparations	22
10	Simulation Runs and Feedbacks	23-24
11	Final Preparations	25
12	Live	26
13	Post Implementation Follow-up	27-30

The Actual Outcome

In spite of the detailed implementation schedule set for SYSCO, the actual live day of SYSCO was delayed for about 6 months behind schedule due to:

(a) Several major system loopholes were detected. Program amendments were called for.

(b) Strong reluctance of users to make organisational modifications caused delay.

(c) Miscommunications with subcontracted outside consultant.

(d) The computer based training (the use of self-taught training diskettes) took longer time for users to complete than expected.

(e) Users lacked initiative to provide feedbacks to the Local Implementation Team. Problems were often raised in the last minute.

(f) The simulation runs were poorly managed. Eventually, four instead of two simulation tests needed to be conducted.

After a total preparation period of about 18 months, SYSCO finally goes life and it marks the beginning of a new era for the Bank to run its daily operations under a real-time and on-line system.

CHAPTER VI

IMPLEMENTATION DIFFICULTIES

During the implementation process of SYSCO, a lot of obstacles have emerged. The major difficulties encountered are summarised below.

A. Low Receptiveness to Changes

Traditionally, the Bank has been operating in a relatively stable environment. Staff members are used to long-established practices and guidelines. Old manuals and procedures are "perceived" to be working well. Changes have led to a great deal of uncertainties. Questions like the followings commonly exist amongst users.

"Can the new system really work?"

"Is it difficult to learn the new system?"

"I have never really operated an on-line terminal. Can I manage?"

Even for management members, not all are equally receptive to new ideas. Feelings of uncertainties often lead to opposition forces.

B. Drastic System Advancement

For the preceding 10 years before the implementation of SYSCO, the management and operation staff of the Bank have all been accustomed to working with the previous off-line system which has to be complemented by a lot of manual work. In a way, the previous operation system can be regarded as "one generation of technology behind" when compared with the systems being in use by other banks.

The new system now being implemented - with advanced features like on-line real-time updating, system controlled shielding, system routed fiating, etc. - is considered a big move to "jump" one step ahead of most of the competitors in the market. The intention is to position the Bank as a market leader in providing quality services to her clients. However, to an average internal staff who is used to working with off-line batch processing procedures, the drastic change in the operation system has led to adjustment problems as the change is basically from "one step behind" to "one step ahead".

C. Fear for Headcount Reduction and Loss/Change of Job

The installation of an advanced operation system with improved efficiency naturally arouses the fear amongst employees for a subsequent headcount cut or even a layoff move.

The more the new system can improve working efficiency, the more the worries amongst employees. The worries are not only about loss of jobs but also about the possibility of change of responsibilities if the present job does not need to maintain the same number of headcounts. It was noticed that during the implementation period, the staff turnover rate was on the average higher than usual. This fear for loss or change of job affects morale and lessens the employees' acceptance for working with the new system.

D. Inadequate Technical Training

The Bank has a total number of about 500 staff members. To various extent, they all need to receive technical training for using SYSCO in their daily operations. To train up these people within a restricted time period of a few months, while at the same time the Bank needs them to perform the usual amount of work in order to keep business going, is not an easy task. To schedule the staff for training and to re-allocate current workload had been a headache for the functional department heads. The fact that staff absenteeism and turnover were higher than usual during implementation period put additional load on the difficulties encountered.

Besides arranging workshops, issuing written user guides and to a very limited extent providing trainers for group training sessions, the technical training of SYSCO is largely performed with the use of a Computer Based Training (CBT) software. Each user is required to go through a number of modules of programs in CBT and will be given a test (with multiple-choice questions) at the end of each module completed. If failed, the user will have to go through the same module again. The number and types of

modules a user has to go through are pre-set with his/her user ID and are in accordance with his/her duties. The whole CBT lasts for about 6-8 hours.

Despite that CBT is quite user-friendly, the self-taught training program has certain limitations. Basically it assumes that the users all have the ability to understand the program content. Actually it may not be the case. The conceptual material of the content is particularly hard to comprehend for an average user. Some users merely guess the answers and pass the tests. It follows that the assumption that the users who have passed CBT would have a concrete understanding of how the system works may not hold. Furthermore, the CBT programs do not provide interactions between trainer and user, which are essential in clarifying misconceptions and ensuring the users being equipped with the necessary knowledge to operate the new system.

From our understanding through interviews with users, many users do not have a clear picture of how SYSCO really works even on the life date. It is through trial and error and sharing experiences with other colleagues that they manage to go through the early adjustment period after the live date.

E. Basic Program Constraints

The basic software of SYSCO is developed by an outside third party which is purchased by the Bank at the Head Office' country. It has to go through a long process of defining user requirements and customisation before the actual implementation. However, although most of the individual programs or templates in SYSCO can be amended in accordance with users' needs, drastic changes are not always feasible; and changes of basic program logic are for sure impossible.

Since it is not plausible that the creator of SYSCO could cater for all specific requirements from all the Bank's branches worldwide in its design, it is likely that a few of the local requirements have to be adjusted or sacrificed.

This has often given rise to fierce arguments and disagreements between the implementation staff and the commercial people of the Bank, who are particularly concerned of their customers' needs. The country General Manager and the Local Implemenation Manager have to play a significant role in resolving or mitigating these conflicts.

F. Communication Barriers

Communication is a critical element in the system implementation. User trainings are being conducted by EDP trainers and outside consultant. Information on system concepts and workflow are being provided by the implementation staff. The users are being required to pass on feedbacks to the implementation team. These processes have to go on all through the implementation period.

However, technical people including outside consultant, EDP and MIS staff and many trainers tend to use technical languages in communications. The users, on the other hand, use specialised terms in their own area of experience and at the same time may not be able to interpret the "jargons" of technical people in layman terms.

As a matter of fact, miscommunications often occur. There were cases where the users misunderstood that a program could perform a task while in fact it could not, or that a template was amended in a way different from the user's request. Miscommunications have made the implementation and user training a time-consuming process.

G. Manpower Constraint (in Implementation Team)

The implementation team is made of six full time members. Four of them heads a work group of a specific function which consists of part-time staff members working part-time or are temporarily seconded from other departments.

On the other hand, they have their own job in the team. Basically, they are responsible for all hands-on work from information gathering to system improvement, and from user training to workflow re-design. The team is the heart of the implementation and they are very much overloaded with work burdens. The "record" achieved by one particular team member is that he had to work for over 16 hours per day, for all 7 days in a week, for three consecutive weeks.

In a seriously and continuously overworked situation, the efficiency and effectiveness of the team's performance could reduce and the progress of implementation could be affected.

H. Tight Time Schedule

The implementation process has been set under a tight time table. One implementation member actually expressed that practically the time schedule was impossible to comply with. Some of the essential steps of the implementation process were forced to be completed within a short time period and the outcomes were unsatisfactory. The tight implementation has imposed a considerable amount of pressure on the implementation staff and an atmosphere of tension was created among the people involved including management and users, which did not necessarily help in speeding up the process.

Besides, when the originally set deadlines for jobs elapsed, the revision of job deadlines and re-allocation of work were not done in an organised manner. Some confusions were created which had adverse effects on efficiency and morale.

I. Insufficient User Education

On top of providing technical trainings on how to operate the new system, user education here refers to the gaining of users' commitment to the system implementation and their understanding that the system roll-out should be carried out with top priority in a smooth manner.

Without encouraging the proper attitude towards system change that would be taking place, many users were actually not serious about it. Some of them might have the idea that the project would eventually fail or be abandoned. When the implementation team gathered inputs or sought users' feedbacks, these users might have just replied arbitrarily without much prior thoughts.

This is the main reason why a lot of queries, clarifications and amendment requests from users were raised in the last minute, after it was announced that the new system would actually go live within a short period of time. Naturally, these amendment requests could not be dealt with immediately and would have to be put aside until a few weeks (or even months) later after the system has been proven stable.

This improper attitude of some users also explained why some results of the simulation runs were misleading. In fact, the users had not treated the matter seriously and correctly.

J. Top Management Pressure

Because of the importance of this project of global system change, top management has been exerting a lot of pressure on the GIM and LIM to have SYSCO successfully go live as soon as possible. The pressure has been substantially intensified when the initial life date was slipped.

Inevitably, some politics existed among top management in Head Office, focusing on the delay of the automation project on which the Bank had already invested a tremendous amount of money. When political factors come into play, possibly many other considerations are overridden. This can be best expressed by the remarks that one of the Banks' top management members gave: "I know the system is not perfect and there are amendments to be made. But I couldn't just let the deadline be deferred forever.

It could be a matter of the career of all of us here." Fortunately, and attributed to contribution and devotion of the implementation staff, SYSCO has gone life without major problems. But minor defects are many.

CHAPTER VII

POST-IMPLEMENTATION RESULTS

A. Sampling

To measure the post-implementation results of SYSCO, an opinion survey was conducted on the internal users of the new system and the customers of the Bank. Twenty users were selected from various functional departments and they consisted of staff members of different internal ranks: 6 managers, 4 officers, 6 supervisors or cashiers and 4 tellers. Each selected user was given a questionnaire (a sample of which is attached in Appendix I) to complete or was interviewed by us to obtain answers for the questions. Similarly, twenty customers were selected from the client portfolio of the Bank. They were composed of: 4 personal accounts and 16 company accounts from different industries. They were interviewed by us to collect their opinions for the questions as listed in Appendix II attached.

B. Findings and Interpretations

Internal Users

(a) Perceived Purpose of the New System

- Nearly all selected users opined that SYSCO could improve efficiency and productivity and can re-gain business from competitors. Amazingly, nobody thought that it could increase customer satisfaction or pave way for expansion.
- Equally surprising, 40% of the respondents mentioned under "Others" that the automation project was aimed at cost cutting and/or manpower/headcount reduction. The fact that the users have taken the purpose of the automation in a very negative sense should receive attention from the Bank's management.

(b) Benefits and Shortcomings

- Almost all respondents felt that SYSCO could help them do their work much faster than before. About 60% stressed the considerable reduction of paper work. About 50% considered the elimination of a lot of manual checking and duplicated work as major advantage of SYSCO. Two respondents were particularly happy with the new system's requirement that all operation users had to complete their work

and sign off before 5:00 p.m. each day, as they could then leave office punctually after 5:00 p.m.

- Despite the above benefits, surprisingly, one respondent expressed that SYSCO created a great deal of additional paper work for him. Probably, this was due to his unique job nature or applied only to his particular position. Most of the respondents pointed out the following shortcomings of SYSCO:

  (i) Too rigid. Cannot provide flexibility.

  (ii) Too few product codes allowed.

  (iii) Format of new reports being different causes user inconvenience.

- Among the aforementioned shortcomings, rigidity and inflexibility appeared to be the key area of concern. Yet this seems inevitable for any automated system as the operation procedures have become much standardised and have eliminated as much manual work as possible. And the control functions are also performed in a systematic manner. The comments of inadequate product codes and inconvenient report format should be reflected to the implementation team to consider program consider program amendments.

(c) Impact on Work/Morale

- Regarding the new system's impact on individual work overall team morale, the opinions of the respondents varied significantly. The following table summarises respondents' replies:

	Increase	Decrease	Unchanged
Workload	15%	75%	10%
Output Quality	65%	20%	15%
Job Satisfaction	35%	30%	35%
Job Security	5%	40%	55%

	Increase	Decrease	Unchanged
Team Morale	30%	30%	40%

- It is interesting to note that 15% respondents considered the new system causing an increase of their workload. On further clarification with these particular respondents, it was learnt that their comments were related to the inflexibility of the system in certain minor operational procedures, or were simply due to their taking up jobs previously performed by others. These situations seem comprehensible, and therefore serious negative implications cannot be concluded simply from responses of this particular group. On the other hand, although 75% responded that SYSCO reduce their

quantity of work, some of them said that it sometimes created problems in other areas which were time-consuming to solve.

- Not all respondents thought SYSCO could improve output quality. About 20% said it actually produced poorer output than the previous system. It is mainly related to the format of the control reports generated by the system which were considered not satisfactory by some users.
- A substantial variation is noted in the respondents' attitude towards job satisfaction after the system is up. Only 35% felt that SYSCO improved job satisfaction. About 30% said it reduced satisfaction at work. Apparently this is not in line with the opinion of most of them that SYSCO eliminated a lot of duplicated manual work and checking procedures. However, job satisfaction is basically a subjective perception. Given that the new system has been up for about 3 months only and quite a number of program amendments are now still being done, it is not difficult to understand that under the existing situation, many individual users may not be able to feel the improved job satisfaction offered by the new system. Possibly

they may see that they actually enjoy working with it later after most of the minor system defects are fixed.

- As to the users' feeling of job security, the fact that a high percentage (40%) of the respondents held the opinion that their career might be affected by SYSCO should receive special attention from the Bank's management.
- Another noteworthy finding is that 30% respondents felt that the overall team morale of their functional departments was adversely affected by the installation of SYSCO. It is likely that the loss of job security is one of the major factors contributing to the morale problem. However, people being the most important resources of any commercial enterprise, it is mandatory that the Bank's management look into the real causes of decreased morale and take immediate remedial actions. It is least desired that SYSCO brings about productivity improvement in processes but is offset by people turnover and demotivation.

(d) Comments on Implementation Process

- About 80% of the respondents expressed that their interests as system user had not been adequately represented during the implementation process. Over half of these respondents indicated that nobody asked them what they expected from the new system, and what problems they were facing with the previous system. Although it is not possible that the Bank's management or the implementation staff should consult every single staff member in the automation process, such a high percentage of selected users showing a negative opinion towards the representation of their interests as users indicates that there are inadequacies in the implementation process, especially in the areas of user education and communication. These figures should be channeled back to the implementation team for process evaluations and as feedback for improvements.

(e) Rating

- Overall, 70% of the respondents preferred working with the new system than the previous one. Some of them attached a condition that the system loopholes had to be filled or that the amendment requests raised had to be made, etc. On the whole, the new system is considered to a large extent to be accepted by the users. This more or less coincides with the outcome of the respondents' ratings on the performance of SYSCO on a 0 to 10 continuous scale (0 - Totally unacceptable; 10 - Entirely satisfactory). The average rating was 6.7. The mode was 7.
- As to the overall rating on the implementation process the respondents experienced, the mean only scores 4.75 (0 - Total failure; 10 - Perfect success). According to the sample of respondents, the peformance of the team was below average. The relatively low yield in overall rating highlights the possibility that a lot of users have not been very pleased with the way the implementation was carried out.

Customers

(a) Perceived Objective of System Change

- About 90% of the respondents said that they were never informed of the reasons why the system change was made. In spite of this, the respondents were requested to figure out the Bank's ultimate objective of installing SYSCO. All the four given options, shown below, were chosen by some respondents:

  (i) Increase customer satisfaction.

  (ii) Improve internal efficiency and productivity.

  (iii) Be in line with competitors.

  (iv) Pave way for business expansion.

- "Increase customer satisfaction" scored the highest. And many respondents chose all. Nobody mentioned cost-cutting. This can reflect, to a certain extent, the relatively more positive attitude of the Bank's customers when compared with the Bank's internal users towards automation. Under "Others", one respondent even pointed out the possibility of selling the whole system, after it had been proven successful, to third parties at a profit. However, some opinions were less positive. One respondent made an interesting remark under "Others" saying

that probably the Bank might not be able to survive the competition if it stuck to its outdated system. It implies that the automation plan was actually driven by the urge for survival. Despite that this opinion is given from a rather negative viewpoint, to a reasonable extent, it represents the fact.

(b) Favored Changes

- The on-line feature of SYSCO that allows customers to make transactions of their accounts at all the sub-branches in a fast and accurate manner was favored by all respondents. In addition, the respondents all seemed to appreciate the real-time updating feature of the new system by which all the debit and/or credit entries to be made to their accounts by various departments of the Bank are instantly posted to their account balances the minute they are transacted. One respondent expressed that in the past, the teller or cashier could never answer him immediately the accurate balance of his account at that moment because the teller had to i) first check the daily outstanding report; ii) add up the transactions done through his/her desk; iii) possibly also check with other sub-branches to see if there were cash or cheques

being deposited into the account concerned. He said that, with SYSCO, he can get the accurate balance anytime he wants.

(c) Unsatisfactory Changes

- Besides the good changes, the respondents indicated quite a few changes that they were not satisfied with or even would like to complain about.
- The unfavored changes put forward by the respondents include the following and others:
  - (i) Insufficient details in transaction advices mailed to customers.
  - (ii) Inappropriate frequency of statements.
  - (iii) Too early cut-off time for certain transactions (e.g. outgoing remittances).
- Most of these features are either minor, adjustable through internal policy change, or can be easily fixed by subsequent program amendments. However, there is one basic feature of SYSCO that is the focus of complaints (from 30% of the respondents) - the system routed fiating feature. According to these respondents, in the case that an excess was created, it took unusually long time before the approval could be obtained for a transaction to proceed further.

- A case obtained through interview with a respondent: The respondent said that his staff had for one time waited for one and a half hour in the lobby of one of the Bank's sub-branches, just for encashing a cheque that incurred an excess of HKD500 over the checking account's overdraft limit. His company actually had been maintaining free deposits in millions of HK dollars in another account of the Bank.
- In this particular case, the system went on to locate an appropriate fiater in a pre-set sequence. Unfortunately, all possible fiaters were not attending their terminals. The system thus could not complete the transaction to generate the proper customer confirmation before it was properly fiated. Therefore, the respondent had to wait until the fiating was done. The customer involved was particularly upset in this case because the excess was not due to his fault or the fault of his staff, but was a result of the delayed input of a higher overdraft limit that had already been approved.

- The above-mentioned case may be a rather extreme example but it certainly puts forward certain doubts to the effectiveness of a major feature of SYSCO - the system routed fiating. This case should draw the attention of the Bank's management to come to a close look at the system's loopholes. Not necessarily should the idea of system routed fiating be given up. Yet probably, the design of the fiat routings needs to be reworked and the coordination between departments is to be enhanced.

(d) Consideration for Customers' Interests

- About 50% of the respondents said that their interests as the Bank's customer might not be adequately represented in the implementation process. About 30% trusted that the Bank's staff could adequately represent their interests. The remaining respondents showed no opinion.

(e) Rating

- The table below shows the percentage of respondents holding various viewpoints on how the service of the Bank has changed:

A lot better	5%
Better	65%
Same	20%
Worsened	10%
A lot worsened	0%

- About 70% of the respondents showed that they preferred SYSCO to the previous system. Again 70% of the respondents held that after the new system was installed, they had a better impression of the Bank as a world class financial institution. The remaining 30% were either indifferent or did not have an improved impression probably due to the unsatisfactory experience with the fiating procedures.
- The average overall rating from the 20 selected customers, on the 0 to 10 scale, on SYSCO performance, is 6.35, which is rather close to the selected users' average rating. On the whole, the opinions of the selected customers reflect that SYSCO is acceptable to them.

(f) Impact on Future Relationship

- The overall good rating on the new system is further substantiated by the respondents' projection on their relationship with the bank in the coming future. About 45% expressed that they would consider increasing business with the Bank due to the new system's favorable features (as mentioned in "Favored Changes" above). On the other hand, 10% said that they would consider reducing business with

the Bank if no improvements to the newly installed system would be made in the coming future. The remaining 45% expected that their business relationship with the Bank would not be significantly enhanced by the new system but is not expected to worsen. Some respondents said that they were very happy to stay with the Bank, but when talking about increase of business, many other factors (like interest rate, lending ratios, terms of banking facilities, etc.) had to be considered.

CHAPTER VIII

CONCLUSION

In spite of the limitation that the sample size is not very large, the opinion survey conducted on selected users and customers provide much inputs on the result of the new system implementation. The findings of the survey suggest that the automation project has to a large extent met its objective and is accepted by the majority of the users and customers. Yet it is far from a perfect success. Inevitably, a lot of minor problems arose during the course of and after the implementation. Remedial actions are to be taken. However, the top management of the Bank thinks that as long as there are no major problems, the project is practically considered to be successful.

A. Lesson to Learn

Our group would like to summarise basically what we have learnt from conducting this project in the following list of necessary factors contributing to the successful implementation of an automated system.

Total Commitment from Management

An essential element of a successful implementation of system automation is to secure total commitment from top management. Perhaps many of the decisions made and communications held during the implementation process should not be in a top-down manner. But the driving force to push the system change towards its desired end has to come from the top, and if possible, to reach all levels. Practically, it simply does not work to depend entirely upon the middle and low level people to initiate changes that involved their own work.

Good System Design

Needless to elaborate, in order for the implementation to be successful, the new system to be installed must be one of good design and being able to bring in added values (e.g. productivity increase, cost savings, etc.) to the organisation.

Effective Project Management

Whether the system implementation is conducted under an effective project management is a determining factor contributing to the success of the project in many real life cases. By project management, we mean the forming of project organisation, and the planning, organising and

controlling of the implementation activities. With effective planning, organising and controlling, a lot of the difficulties encountered during implementation (as discussed in Chapter VI) can in fact be smoothened out.

Proper Time Management

Every undertaking takes time to achieve. If managed improperly, time could become a constraint. The time element is important in system automation in four aspects. Firstly, as time goes by, the advanced features of the new system which are intended to bring about performance improvements can become out-of-date or obsolete. Secondly, the longer the time taken, the more it costs. It should be borne in mind that automation is an extremely expensive process involving huge investments in manpower and money. The count of dollars spent continues every day. Thirdly, the longer it takes, the greater the internal pressure created which could hamper morale and work effectiveness. Fourthly, the implementation process normally consists of a series of inter-related activities. The failure to complete these activities according to the pre-set time schedule could seriously affect subsequent plans and result in confusions.

Considerations for Human Factors

The success of an automation plan depends a great deal on whether they are well-received by the users of different levels. A lot of human factors have to be taken into account in order to achieve a smooth implementation. These factors include the human resistance to changes, fear for loss of power, and the fact that receptiveness improves with amount of consultation, etc. Care must be taken throughout the whole implementation process to ensure morale and motivation will be least impacted.

B. Conclusive Remarks

The automation project undertaken by the Bank is aimed ultimately at achieving commercial results, that is business growth in the long run. Apparently, the project, which on the whole is regarded as successful, is able to bring about certain quantifiable or tangible improvements in the operations. These improvements can be in terms of cost savings, improved productivity, reduced turnaround time in transaction processing, increased operation capacity, etc. Or they can be observable improvements as in the format and quality of management reporting or even in the layout and content of customer statements. Nevertheless, even if the automation project is a complete success and an advanced

operation system is in place, there is still no guarantee that the Bank would certainly attain her commercial goals in the long run.

To think that a bank can increase its profit or achieve growth merely by improving the operation system would be a serious management mistake. Unfortunately this mistake has been committed by many banks in real-life. They invested a substantial amount of money in their systems but eventually have not achieved what they want. Essentially, they have neglected one key element - people, which is in fact the most important asset of service industries including banking.

The quality and morale of the workforce of a bank play an extremely critical role in developing business and maintaining customers for the bank. To fully exploit the added values brought about by an advanced operation system, an equally significant amount of investment should therefore be placed in a bank's human resources. Our group certainly hopes that the top management of the Bank we study in this project is well aware of the importance of her assets of human resources and will not tend to believe that with the more advance system now in place, people become more dispensable.

APPENDIX I

User Opinion Survey on the Bank's New Operation System

1. As far as your functional activity is concerned, what do you think can be achieved by installing the new system?

_____ Improve internal efficiency and productivity
_____ Assist in re-gaining business from competitors
_____ Increase customer satisfaction
_____ Pave way for future business expansion
_____ Others: _____

2. In your opinion, what are the relative advantages and shortcomings of the new system, when compared with the previous one?

Advantages: _____
_____
_____
_____
_____

Shortcomings: _____
_____
_____
_____
_____

3. How does the new system affect your work? (Please '√' as appropriate.)

	Workload	Output Quality	Job Satisfaction	Job Security
Increase	_____	_____	_____	_____
Decrease	_____	_____	_____	_____
Unchanged	_____	_____	_____	_____

4. How is the overall morale of your functional department affected by the system change? Please give reason.

_____ Improved. Reason: _____

_____ Adversely affected. Reason: _____

_____ No change.

5. Do you prefer working with the new or the previous system? And why?

_____ New. Reason: _____

_____ Previous. Reason: _____

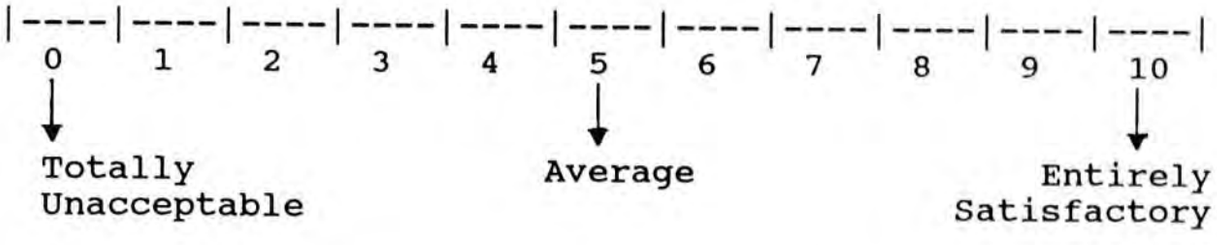
6. Do you think that your interest as a system user has been adequately represented in the development and implementation processes of the new system? And why?

_____

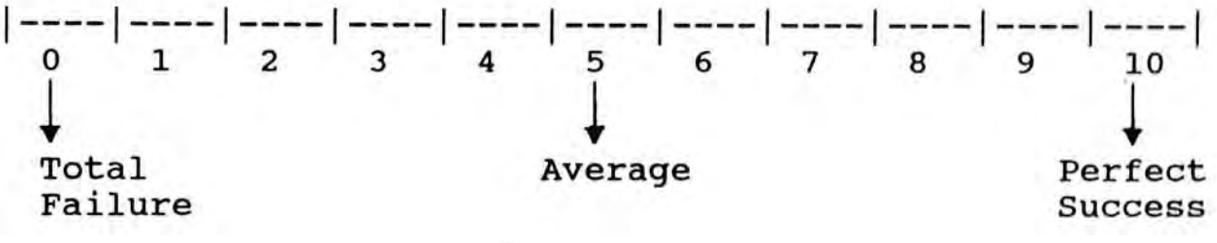
7. What would you like to suggest or recommend for similar system changes of the Bank in future?

_____
_____
_____
_____
_____

8. You are requested to rate the performance quality of the new system as a user. Please indicate your overall rating with a '√' in the following continuous 0 to 10 scale (10 - Perfect).



9. You are requested to rate the system implementation process you experienced as a user. Kindly indicate your overall rating with a '√' in the following continuous 0 to 10 scale (10 - Perfect Success).



10. Are there any other comments/remarks you would like to make regarding the new system?

_____
_____
_____
_____
_____

APPENDIX II

Customer Opinion Survey on the Bank's New Operation System

1. Do you know that the Bank has recently installed a new Operation System?

   Yes ___
   No ___

2. Have you been informed of the reasons/benefits of installing the new system?

   Yes ___ Informed by: _____
   No ___

3. As far as you know, what is the Bank's ultimate objective of installing the new system.

   _____ Increase customer satisfaction
   _____ Improve internal efficiency and productivity
   _____ Be in line with competitors
   _____ Pave way for business expansion
   _____ Others: _____
   _____
   _____
   _____
   _____

4. The new system naturally brings about some changes that could possibly affect you as a client of the Bank. What specific areas of change these changes are you in favor of? (Please be specific.)

   _____
   _____
   _____
   _____
   _____

5. What specific areas of these changes do you consider to be unsatisfactory and/or creating inconvenience? (Please be specific.)

_____
_____
_____
_____
_____

6. Do you think your interest as a client has been adequately taken into account in the Bank's system changes?

_____
_____
_____
_____
_____

7. How do you consider the overall service of the Bank after the new system is up?

_____ A lot better
_____ Better
_____ Same as before
_____ Worsened
_____ A lot worsened
_____ Other remarks: _____
_____
_____
_____
_____

8. How is your impression of the Bank changed after it changes to operate with the new system?

_____ Better. In what way?

_____
_____
_____
_____
_____

_____ Worsened. In what way?

_____
_____
_____
_____
_____

_____ No Change.

9. As a client of the Bank, do you prefer the services provided under the new system or the previous system?

_____ New system
_____ Previous system
_____ Indifferent

10. Given that the Bank's new system is in operation, would it affect your future business relationship with the Bank?

_____ Consider increasing business with the Bank because of the new system in place;
Main reason: _____
_____
_____
_____
_____

_____ Consider reducing business with the Bank because of the new system in place;
Main reason: _____
_____
_____
_____
_____

_____ No change induced by the new system installation.

_____ Other remarks: _____

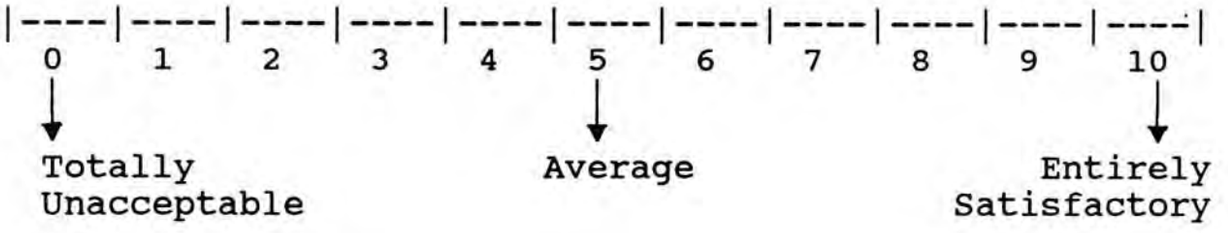
_____

_____

_____

_____

11. You are requested to rate the performance quality of the new system as a client. Please indicate your overall rating with a '√' in the following continuous 0 to 10 scale (10 represents entirely satisfactory).



12. Are there any other comments/remarks you would like to make regarding the system change?

_____

_____

_____

_____

_____

_____

_____

_____